

CLAIMS

1. A system for outputting a broadband signal, the broadband signal comprising a first plurality of channel streams, the first plurality of channel streams arriving at the system in a digital format, the system comprising:
 - a plurality of modulator circuits producing a digital upconverted signal of each of the channel streams;
 - a summer circuit, coupled to the plurality of modulator circuits, for digitally summing the digital unconverted signals;
 - a DAC, coupled to the summer circuit, producing an analog signal from the digitally summed upconverted signal; and
 - an upconverter, coupled to the DAC, for upconverting the signal into another signal centered on a particular frequency.
2. The system of Claim 1 wherein the each of the plurality of modulator circuits outputs a single signal.
3. The system of Claim 1 wherein the upconverter is an IF modulator.
4. The system of Claim 1 further comprising:
 - a filter, coupled to the upconverter, to band limit the outgoing signal.

5. A system for outputting a broadband signal, the broadband signal comprising a first plurality of channel streams, the first plurality of channel streams arriving at the system in a digital format, the system comprising:
- a plurality of modulator circuits producing a digital upconverted signal of each of the channel streams;
 - a summer circuit, coupled to the plurality of modulator circuits, for digitally summing the digital upconverted signals;
 - a DAC, coupled to the summer circuit, producing an analog signal from the digitally summed upconverted signal;
 - an upconverter, coupled to the DAC, for upconverting the signal into another signal centered on a particular frequency; and
 - a transmitter, coupled to the upconverter, for outputting the plurality of summed signals to a receiver.
6. The system of Claim 5 wherein each of the plurality of modulator circuits outputs a single signal.
7. The system of Claim 5 wherein the upconverter is an IF modulator.
8. The system of Claim 5 further comprising:
- a filter, coupled to the upconverter, to band limit the outgoing signal.
9. A system for outputting a broadband signal, the broadband signal comprising a first plurality of channel streams, the first plurality of channel streams arriving at the system in a digital format, the system comprising:

a plurality of modulator circuits producing a digital upconverted signal of each of the channel streams, each of the plurality of modulator circuits having a first and second outputs;

a first summer circuit, coupled to the plurality of first outputs of the plurality of modulator circuits, for digitally summing the first outputs of the modulator circuit;

a second summer circuit, coupled to the plurality of second outputs of the plurality of modulator circuits, for digitally summing the second outputs of the modulator circuit;

a first DAC, coupled to the first summer circuit, producing an analog signal from the digitally summed first outputs;

a second DAC, coupled to the second summer circuit, producing an analog signal from the digitally summed second outputs; and

an upconverter, coupled to the first and the second DAC, for upconverting the summed first signals and the summed second signals into another signal centered on a particular frequency.

10. The system of Claim 9 wherein the upconverter is a quadrature modulator.

11. The system of Claim 9 further comprising:

a filter, coupled to the upconverter, to band limit the outgoing signal.

12. A system for outputting a broadband signal, the broadband signal comprising a first plurality of channel streams, the first plurality of channel streams arriving at the system in a digital format, the system comprising:

a plurality of modulator circuits producing a digital upconverted signal of each of the channel streams;

a first number of summer circuits, each summer circuit coupled to the plurality of modulator circuits, for digitally summing an output of the modulator circuit;

a number of DACs, each of the second number of DACs coupled to a summer circuit, each DAC producing an analog signal from the digitally summed output of one of the summer circuits; and

a second number of upconverters, each of the second number of upconverters coupled to the number of DACs, for upconverting a signal from the DAC into an output signal centered on a particular frequency;

wherein the second number is less than the first number.

13. A system for outputting a broadband signal, the broadband signal comprising a first plurality of channel streams, the first plurality of channel streams arriving at the system in a digital format, the system comprising:

a plurality of modulator circuits producing a digital upconverted signal of each of the channel streams;

a first number of summer circuits, each summer circuit coupled to the plurality of modulator circuits, for digitally summing an output of the modulator circuit;

a second number of DACs, each of the second number of DACs coupled to a summer circuit, each DAC producing an analog signal from the digitally summed output of one of the summer circuits; and

a number of upconverters, each of the third number of upconverters coupled to the second number of DACs, for upconverting a signal from the DAC into an output signal centered on a particular frequency;

wherein the second number is less than the first number.